

REMARKS

Claims 1-15 remain in the application for consideration of the Examiner with Claims 14 and 15 standing withdrawn.

Reconsideration and withdrawal of the outstanding rejections and objections are respectfully requested in light of the above amendments and following remarks.

The drawings were objected to under 37 CFR 1.83(a).

The Examiner alleges that the circuit board in Claim 1, the dimples in Claim 10, and the plurality of plastic frame parts in Claim 11 are not shown in the drawings.

This objection is traversed.

However, notwithstanding the allegations of the Examiner, the component board is shown as element 140 in Figure 1E, the dimples are shown in as element 407 in Figure 4, and the plastic frame parts are shown as element 100 in Figure 1A.

It is respectfully submitted that the drawings are in full compliance with 37 CFR 1.83 and show every feature of the claimed invention.

Turning now to the art rejections, Claims 1-3, and 9-11 were rejected under 35 U.S.C. §103 as being unpatentable over D'Amico in view of Vratny.

It is respectfully submitted that D'Amico does not disclose or suggest the presently claimed invention including, the plurality of metal pins intended for assembly to the circuit board as defined in independent Claim 1.

D'Amico discloses at column 3, lines 15-20 that for integration into a leadless component socket according to the invention, the contact socket assembly 12 comprises a raised outer frame 32 which is substantially rectangular.

This socket does not permanently attach to the leaderless component to the PCB. Rather it is used as contact pressure to make connection to the leaderless component.

Whether or not Vratny discloses plastic and whether or not it would have been obvious to one of ordinary skill in the art to combine the teachings of Vratny with D'Amico is on no matter since the result in construction would not disclose or suggest the presently claimed invention.

Applicants appreciate the indication that if Claims 4-8 and 12-13 were rewritten in independent form including the limitations of the base claim and any intervening claims, these claims would be allowable.

Claims 4-6, 8, and 12 have been placed in independent form and it is respectfully submitted that claims 4-8 and 12-13 are now allowable.

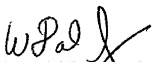
In light of the above, it is respectfully submitted that the present application is in condition for allowance, and notice to that effect is respectfully requested.

While it is believed that the instant response places the application in condition for allowance, should the Examiner have any further comments or suggestions, it is respectfully requested that the Examiner contact the undersigned in order to expeditiously resolve any outstanding issues.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

To the extent necessary, Applicant petitions for an Extension of Time under 37 CFR 1.136. Please charge any fees in connection with the filing of this paper, including extension of time fees, to the deposit account of Texas Instruments Incorporated, Account No. 20-0668.

Respectfully submitted,


W. Daniel Swartz, Jr.
Attorney for Applicant
Reg. No. 34,476

Texas Instruments Incorporated
P.O. Box 655474, MS 3999
Dallas, TX 75265
(972) 917-5633

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claims 4-6, 8, and 12 have been amended as follows:

4. A header for connecting an electronic components board to a circuit board, comprising:

a plurality of side walls joined together to form a planar frame around an area substantially the same as the area of said components board, said frame having first and second surfaces;

said side walls made of plastic material unwarpage at assembly temperatures, and having a thickness suitable for tolerating process-induced stresses;

a plurality of geometric features in said first surface, suitable for aligning said frame to said components board;

selected side walls having a plurality of openings extending from said first to said second surface;

a plurality of metal pins intended for assembly to said circuit board, each of said pins having a first end and a second end;

said first end of each of said pins located in one of said openings, respectively, such that it extends a pre-determined length from said first surface, said length equal for each of said pins; and

said second end of each of said pins protruding from said second surface;

The header according to Claim 1 wherein each of said first ends of said pins protrudes a length of about 0.3 to 0.4 mm.

5. A header for connecting an electronic components board to a circuit board, comprising:

a plurality of side walls joined together to form a planar frame around an area substantially the same as the area of said components board, said frame having first and second surfaces;

said side walls made of plastic material unwarpage at assembly temperatures, and having a thickness suitable for tolerating process-induced stresses;

a plurality of geometric features in said first surface, suitable for aligning said frame to said components board;

selected side walls having a plurality of openings extending from said first to said second surface;

a plurality of metal pins intended for assembly to said circuit board, each of said pins having a first end and a second end;

said first end of each of said pins located in one of said openings, respectively, such that it extends a pre-determined length from said first surface, said length equal for each of said pins; and

said second end of each of said pins protruding from said second surface;

The header according to Claim 4 wherein said first ends of said pins have surfaces wettable by solder.

6. A header for connecting an electronic components board to a circuit board, comprising:

a plurality of side walls joined together to form a planar frame around an area substantially the same as the area of said components board, said frame having first and second surfaces;

said side walls made of plastic material unwarpage at assembly temperatures, and having a thickness suitable for tolerating process-induced stresses;

a plurality of geometric features in said first surface, suitable for aligning said frame to said components board;

selected side walls having a plurality of openings extending from said first to said second surface;

a plurality of metal pins intended for assembly to said circuit board, each of said pins having a first end and a second end;

said first end of each of said pins located in one of said openings, respectively, such that it extends a pre-determined length from said first surface, said length equal for each of said pins; and

said second end of each of said pins protruding from said second surface;

~~The header according to Claim 1 wherein said plastic material of said frame is~~
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8. A header for connecting an electronic components board to a circuit board,
comprising:

a plurality of side walls joined together to form a planar frame around an area
substantially the same as the area of said components board, said frame having first and
second surfaces;

said side walls made of plastic material unwarpage at assembly temperatures,
and having a thickness suitable for tolerating process-induced stresses;

a plurality of geometric features in said first surface, suitable for aligning said
frame to said components board;

selected side walls having a plurality of openings extending from said first to said
second surface;

a plurality of metal pins intended for assembly to said circuit board, each of said
pins having a first end and a second end;

said first end of each of said pins located in one of said openings, respectively,
such that it extends a pre-determined length from said first surface, said length equal for
each of said pins; and

said second end of each of said pins protruding from said second surface;

~~The header according to Claim 1 wherein said side wall thickness is in the range~~
from about 0.9 to 1.2 mm for side walls without pin openings, and from about 2.7 to 3.0
mm for side walls with pin openings.

12. A header for connecting an electronic components board to a circuit board,
comprising:

a plurality of side walls joined together to form a planar frame around an area
substantially the same as the area of said components board, said frame having first and
second surfaces;

said side walls made of plastic material unwarpable at assembly temperatures, and having a thickness suitable for tolerating process-induced stresses;

a plurality of geometric features in said first surface, suitable for aligning said frame to said components board;

selected side walls having a plurality of openings extending from said first to said second surface;

a plurality of metal pins intended for assembly to said circuit board, each of said pins having a first end and a second end;

said first end of each of said pins located in one of said openings, respectively, such that it extends a pre-determined length from said first surface, said length equal for each of said pins;

said second end of each of said pins protruding from said second surface; and

The header according to Claim 1 further having a tab attached to said side walls, said tab suitable for handling said frame by pick-and-place machines and removable after said handling.

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